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10/597,044

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Manfred Sommer

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EXAMINER

DUFF, DOUGLAS J

ART UNIT

PAPER NUMBER

3748

MAIL DATE

DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

| | | | |
|------------------------------|--------------------------------------|--|--|
| Office Action Summary | Application No. 10/597,044 | Applicant(s) SOMMER, MANFRED | |
| | Examiner DOUGLAS J. DUFF | Art Unit 3748 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11/26/08.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 1-19, 22 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

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This Office Action is in response to Applicant's amendment filed 11/26/08.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3, 9-13 and 15 are rejected under 35 U.S.C. 102(b) as being anticipated by Sommer (US 5980225). Regarding claim 1, Sommer discloses a pump with a rotor (inside 90), which is present fixedly in terms of rotation on a drive shaft (180) connectable to a motor drive (224) and which possesses a radially projecting rotor collar (90) running around in a wavy manner, and a rotor hub, said rotor hub (140 to 107) surrounding a projecting end region (inside bore 149) of the drive shaft, with delimiting faces delimiting the rotor collar on both sides in the axial direction (top and bottom sides) and leaving between them a pumping duct (27), with an inlet and an outlet for the pumping duct (26, 28), with an axially adjustable sealing slide (31) bearing sealingly against the rotor collar on both sides in the axial direction and subdividing the pumping duct between the inlet and the outlet, characterized in that a first bearing for the drive shaft (169), for the supporting mounting of the drive shaft in the radial direction and for absorbing radial and axial forces (radial and axial ends of 172, col. 10, lines 37-39 and col. 10, lines 53-55), is present at the projecting end region of the drive shaft

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within a clear space region (axial boundaries of 24) in the axial direction of the shaft occupied by the rotor collar (169 inside boundary, Fig. 3).

3. Regarding claims 2 and 3, Sommer discloses the pump of claim 1 including the first bearing point has at least one bearing (169) present within the clear space region occupied in the axial direction by the rotor collar and a sleeve shaped carrier (173) carrying the driveshaft projects from the pump outer wall adjacent to the motor drive (projecting from 66, top of Fig. 3) toward the clear space region (Fig. 3), this first bearing point for the drive shaft is present in the projecting end region (left side of the projecting end region) of the shaft carrier.

4. Regarding claims 9-13, Sommer discloses the pump of claim 3 including a second bearing point for the drive shaft in the region of the pump outer wall (51) adjacent to the motor drive designed for supporting mounting of the shaft in the radial direction, a pump casing and bearing block carrying the latter (38, 43), the casing releasably fastened with its axial rear wall to a holding flange of the block (38, 43), the shaft penetrates through the flange (at 55) and terminates in the casing, a bearing point for the shaft is present in the flange (51) and the casing can be fastened to the flange in various rotary positions (Fig. 3).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 4-8, 14, 16-19, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sommer in view of Terauchi (US 5678986). Regarding claims 4-8 and 14, Sommer discloses the pump of claim 3, but fails to disclose the rotor mounted with an end cap on the shaft carrier, a bearing point for the rotor is present on the opposite outside of the shaft carrier, the first bearing point and the rotor bearing point are in the same axial plane, the first bearing point being on the outside of the shaft carrier, consisting of a plurality of bearings.

7. Terauchi teaches a pump where the rotor (318c) mounted with an end cap (nut at end of Fig. 2) on the shaft carrier (hub attached to 318d at nut, left side of Fig. 2), a bearing point for the rotor (318b) is present on the opposite outside of the shaft carrier, the first bearing point (316) and the rotor bearing point (318b) are in the same axial plane (Fig. 2), the first bearing point being on the outside of the shaft carrier (318b), consisting of a plurality of bearings (Fig. 2). It would have been obvious for a person having ordinary skill in the art at the time the invention was made to utilize a rotor and bearing points as described because this configuration is one of a finite number of typical shaft configurations utilizing a shaft, carrier and bearing elements in order to produce expected result of increasing the radial and axial support of the shaft and rotor using multiple bearings in an axial plane.

8. Regarding claims 16-19, the modified Sommer device discloses the pump of claim 2 including a bush (318d inside between 316 and nut) present on the inside of the rotor hub (outer plate area of 318d) in such a way that the bush sealingly covers each of the bearings (inside plate area of bush covering 316 and 318b) which are freely

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accessible after removal of the rotor, the bush mounted fixedly in terms of rotations of the drive shaft (nut), there is in the rotor hub a ventilation duct (space between inside bush area adjacent nut and outer plate area of 318d), the duct being a bore in an end wall of the rotor hub (innermost end wall of rotor hub, top side of bush, Fig. 2).

9. Regarding claims 22 and 23, the modified Sommer device discloses a holding ring (ring attached to 311b against left side of 318c) sealed off with respect to the bush in the axial direction and a sliding ring (inside ring of bush at nut) in the bush presses in the axial direction and brought to bear against a sliding ring present in the holding ring (pushed against holding ring, Fig. 2).

Allowable Subject Matter

10. Claims 20 and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

11. Applicant's arguments filed 11/26/08 have been fully considered but they are not persuasive. Regarding the argument that Sommers fails to disclose its bearing being at the axial position of the rotor collar, the Examiner respectfully disagrees. The bottom side of Figure 3 of Sommers shows element 90 (path of 95) at the axially left-most extent of the collar, which is the axially left-most part of chamber 24 within which the collar travels. As shown to the right of the collar, chamber 24 extends well beyond bearing element 169 in the axial direction. Therefore, the axial position of the collar is shared by the bearing 169.

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DOUGLAS J. DUFF whose telephone number is (571)272-3459. The examiner can normally be reached on M-Th 7 AM - 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Denion can be reached on (571) 272-4859. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Thomas E. Denion/
Supervisory Patent Examiner, Art Unit 3748

/Douglas J Duff/
Examiner, Art Unit 3748
2/17/09